

AMENDMENTS TO THE CLAIMS

Please replace all prior versions and listings of claims with the following listing of claims.

1-23. (Cancelled)

24. (Currently Amended) In a document handler and imaging system, wherein different document sheets are sequentially moved past an imaging station by a document feeding system to be illuminated by a document illumination source and imaged by a document imager in the document imaging station, wherein the document imaging station includes a document backing surface having a selected color and a scanning sensor having at least ~~[[two]]~~ two color sensitive channels and wherein at least one edge of a document sheet is detected in said document imaging station by said document imager, ~~the improvement comprising:~~

a registration parameter detection circuit, ~~the registration parameter detection circuit~~
~~receiving~~ configured to:

receive image data comprising a representative sample of the backing surface,
the image data including chrominance values in multiple channels for selected pixel locations
along a scanline; ~~[[and]]~~

automatically ~~determining~~ determine an average chrominance values for each of
the multiple channels;

~~the registration parameter detection circuit automatically selecting~~ select a
registration channel based on the average chrominance values;

~~and determining~~ determine a chrominance deviation for the registration channel; and

~~the registration parameter detection circuit automatically determining~~ determine a
registration parameter based on the average chrominance value and the chrominance
deviation of the registration channel.

25. **(Previously Presented)** The document handler and imaging system of claim 24, wherein the registration parameter detection circuit determines the chrominance level deviation for the registration channel as the difference between the maximum chrominance level value within the set of chrominance level values corresponding to the registration channel and the minimum chrominance level value within the set of chrominance level values corresponding to the registration channel.

26. **(Previously Presented)** The document handler and imaging system of claim 24, wherein the registration parameter detection circuit determines a registration parameter for a black average register (BAR) as a function of the average chrominance level of the registration channel, a step change register (SCR) as a function of the chrominance level deviation of the registration channel, and white average register (WAR) as a function of as both the average chrominance level and the chrominance level deviation of the registration channel.

27. **(Previously Presented)** The document handler and imaging system of claim 26, wherein the registration parameter detection circuit determines the registration parameter for the black average register (BAR) according to:

$$BAR_C = \begin{cases} Cb_{avg} & \text{if } Cb_{avg} \geq t_1 \\ t_2 & \text{if } Cb_{avg} < t_1 \end{cases}$$

the registration parameter for the a step change register (SCR) according to

$$SCR_C = \begin{cases} \Delta Cb & \text{if } \Delta Cb \geq t_2 \\ t_1 & \text{if } \Delta Cb < t_2 \end{cases}$$

and the registration parameter for white average register (WAR) according to

$$WAR_C = \begin{cases} Cb_{avg} + \Delta Cb & \text{if } Cb_{avg} + \Delta Cb \geq t_3 \\ T_3 & \text{if } Cb_{avg} + \Delta Cb < t_3 \end{cases}$$

wherein t_1 is the minimum backing chrominance threshold level, t_2 is the minimum step change level and t_3 is the minimum document chrominance threshold level required for detection processing.

28. **(Currently Amended)** In a document handler and imaging system configured to sequentially move different document sheets past an imaging station by a document feeding system to be illuminated by a document illumination source and imaged by a document imager,
[[A]] a method of automatically detecting registration parameters for a selected backing surface, comprising:

obtaining image data via the document imager comprising a representative sample of the backing surface, the image data including chrominance values in multiple channels for selected pixel locations along a scanline;

determining average chrominance values for each of the multiple channels;

selecting a registration channel based on the average chrominance values;

determining a chrominance deviation for the registration channel; and

determining registration parameters based on the average chrominance value and the chrominance deviation of the registration channel.

29. **(Previously Presented)** The method of claim 28, further comprising providing a backing surface having a color being one of yellow, greenish yellow, green and black.

30. **(Previously Presented)** The method of claim 29, wherein the backing surface comprises a ski, the ski being adapted to be removably attached to a document handler.

31. **(Previously Presented)** The method of claim 28, wherein selecting said registration channel further comprises;

determining a chrominance deviation for the registration channel; and

determining registration parameters based on the average chrominance value and the chrominance deviation of the registration channel.

32. **(Previously Presented)** The method of claim 28, wherein determining said chrominance deviation further comprises determining the chrominance level deviation for the registration channel as the differences between the maximum chrominance level value within the set of chrominance level values corresponding to the registration channel and the minimum chrominance level value within the set of chrominance level values corresponding to the registration channel.

33. **(Previously Presented)** The method of claim 28, wherein determining said registration parameters further comprises: determining a registration parameter value for a black average register (BAR) as a function of the average chrominance level of the registration channel; determining a registration parameter value for a step change register (SCR) as a function of the chrominance level deviation of the registration channel; and determining a registration parameter value for a white average register (WAR) as a function of as both the average chrominance level and the chrominance level deviation of the registration channel.

34. **(Withdrawn – Currently Amended)** A method of electronic registration using multiple channels, comprising:

 [[[a)]] obtaining scanned image data for a plurality of channels, the image data for each channel including a plurality of scanlines with each scanline including pixel data for selected locations along the scanline;

 performing an edge detection operation using image data from a first channel to identify a first detected edge;

 performing an edge detection operation using image data from a second channel to identify a second detected edge;

 and performing a resolution operation to identify an actual document edge from the first detected edge and the second detected edge.

35. **(Withdrawn)** The method of claim 34 further comprising:
determining a chrominance deviation for said registration channel;
determining a white average register (WAR) registration parameter as a function of said average chrominance value and said chrominance deviation; and
identifying image data positioned inside an input document edge based upon a comparison of an image data chrominance value and said white average register registration parameter.
36. **(Withdrawn)** The method of claim 35 further comprising:
determining a step change register (SCR) registration parameter as a function of said chrominance deviation; and
identifying image data corresponding to an input document edge based upon a comparison of said step change register registration parameter to a difference between said input document corresponding image data chrominance value and said backing surface corresponding image data chrominance value.
37. **(New)** The method of claim 28, wherein the determining and selecting steps are performed using a processor.